This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Previously Presented): A permanent magnet brushless motor comprising:

a wound assembly comprising permeable laminations with slots;

an insulated copper wire wound with within the slots to provide electrical phases;

a field assembly comprising a permeable structure and at least 20 magnet poles arranged thereon;

wherein the wound assembly and the field assembly are arranged to produce a motive force when the electrical phases of the wound assembly are excited; and

wherein the wound assembly has a slot to pole ratio less than one to increase torque efficiency, the slot to pole ratio being selected so that a C_T value is less than 6 and a Kp value is greater than 0.9 where (1) Kp = sin(1-|(pitch pu-1)|*90.0) where pitch pu = (tooth span pitch/pole pitch) and (2) $C_T = p\ Q_s/N_c$, where p = the number of motor poles, Q_s = the number of slots, and N_c = the least common multiple between the slot number and the pole number.

Claim 2 (Original): The permanent magnet brushless motor of claim 1 wherein the motor has 36 slots and 46 poles.

Claim 3 (Original): The permanent magnet brushless motor of claim 1 wherein the motor has 30 slots and 38 poles.

Claim 4 (Original): The permanent magnet brushless motor of claim 1 wherein the wound assembly rotates and the field assembly remains still.

Claims 5-6 (Canceled).

Claim 7 (Previously Presented): A permanent magnet brushless motor according to claim 1, wherein the ratio of slots to poles is less than 0.90.

Claim 8 (Canceled).

Claim 9 (Previously Presented): The motor according to claim 1, wherein the slot to pole ratio is further chosen to create a balanced winding.

Claim 10 (Previously Presented): The motor according to claim 1, wherein the slot to pole ratio is further chosen for optimum cogging performance.

Claim 11 (Previously Presented): The motor according to claim 1, wherein the slot to pole ratio is chosen to enable efficient machine winding of the wound assembly.

Claim 12 (Previously Presented): The motor according to claim 1, wherein the slot to pole ratio is chosen to have a low total harmonic distortion.

Claim 13 (Previously Presented): The motor according to claim 1, wherein the slot to pole ratio is chosen to create a balanced winding, with optimum cogging performance, and efficient machine winding of the wound assembly.

Claim 14 (Previously Presented): The motor according to claim 1, wherein not all of the slots are wound with insulated copper wire.

Claim 15 (Previously Presented): The motor according to claim 1, wherein torque efficiency is increased by increasing torque density based on a volume of magnetic materials.

Claim 16 (Previously Presented): The motor according to claim 1, wherein the slot to pole ratio is further selected to provide a total harmonic distortion (THD) less than 0.18 where THD = $\surd((V_2/V_1)^2 + (V_3/V_1)^2 + (V_4/V_1)^2 + (V_5/V_1)^2 + (V_6/V_1)^2 + (V_7/V_1)^2 \ldots)/V_1$ % and V1, V2, V3 are the fundamental and higher order harmonics of the generated waveform assuming a 180 electrical degree magnet span (full pitch).

Claim 17 (Currently Amended): A permanent magnet brushless motor comprising:

a wound assembly comprising permeable laminations with slots;

an insulated copper wire wound with within the slots to provide electrical phases;

a field assembly comprising a permeable structure and at least 20 magnet poles arranged thereon;

wherein the wound assembly and the field assembly are arranged to produce a motive force when the electrical phases of the wound assembly are excited; and

wherein the wound assembly has a slot to pole ratio less than one to increase torque efficiency~~, the slot to pole ratio being chosen to have a low total harmonic distortion~~ and the slot to pole ratio is further selected to provide a total harmonic distortion (THD) less than 0.18 where THD = $\sqrt{((V_2/V_1)^2 + (V_3/V_1)^2 + (V_4/V_1)^2 + (V_5/V_1)^2 + (V_6/V_1)^2 + (V_7/V_1)^2 \ldots)}/V_1$ % and V1, V2, V3 are the fundamental and higher order harmonics of the generated waveform assuming a 180 electrical degree magnet span (full pitch).